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a floodplain management newsletter

Volume 52

September 1993

SUBSTANTIAL DAMAGE SUBSTANTIAL IMPROVEMENT

Questions & Answers

After the flood, there were many questions regarding repairs to substantially damaged structures. Following are some of the answers from the FEMA publication "Questions and Answers. Substantial Improvement & Substantially Damaged Structures in Post-Disaster Situations."

Q.

WHAT IS SUBSTANTIAL IMPROVEMENT?

A.

Substantial improvement, as defined in 44 Code of Federal Regulations Section 59.1 means:

"any repair, reconstruction, or improvement of a structure, the cost of which equals or exceeds 50 percent of the market value of the structure either, (a) before the improvement or repair is started, or (b) if the structure has been damaged and is being restored, before the damage occurred. For the purposes of this definition "substantial improvement" is considered to occur when the first alteration of any wall, ceiling, floor, or other structural part of the building commences, whether or not that alteration affects

the external dimensions of the structure. The term does not, however, include either 1) any project for improvement of a structure to comply with existing state or local health, sanitary, or safety code specifications which are solely necessary to assure safe living conditions or 2) any alteration of a structure listed on the National Register of Historic Places or a State Inventory of Historic Places."

Q.

WHY WAS THE 50% FIGURE CHOSEN AS THE SUBSTANTIAL IMPROVEMENT THRESHOLD?

A.

The 50% threshold was chosen as a compromise between the extremes of 1) prohibiting all investment to structures in flood hazard areas which does not meet minimum FEMA floodplain management requirements for elevation and 2) allowing structures to be improved in any fashion without meeting any regulatory standards. In the first alternative there is the potential for causing hardship to those who have located in flood hazard areas without knowledge or risk. These individuals

could not improve their structures as damage or age contributed to their deterioration. The second alternative provides no mechanism to ensure that increased investment in flood hazard areas will receive needed protection from the flood risk, thus contributing to the increased peril to life and property. The threshold is thus a compromise at a half-way point and was chosen because it conforms with similar building code and zoning standards that also use a 50% threshold.

Q.

IN TERMS OF NFIP REGULATIONS, IF A STRUCTURE IS DETERMINED TO BE A SUBSTANTIAL IMPROVEMENT WHAT MUST HAPPEN TO THAT STRUCTURE?

A.

A substantially improved structure must be brought into compliance with NFIP regulations and requirements in the local ordinance for new construction; that is, it must be elevated (or floodproofed if it is a non-residential structure) to or above the level of the 100-year or base flood.

QUESTIONS & ANSWERS

Q.
WHAT IS A SUBSTANTIALLY DAMAGED STRUCTURE?

A.
A building is considered to be substantially damaged when it sustains damage from any cause, whereby the cost of fully restoring the structure to its before damaged condition would equal or exceed 50 percent of the market value of the structure before damage occurred.

Q.
IN TERMS OF NFIP REGULATIONS, IF A STRUCTURE IS DETERMINED TO BE SUBSTANTIALLY DAMAGED WHAT MUST HAPPEN TO THAT STRUCTURE?

A.
All structures that are determined to be substantially damaged are automatically considered to be substantial improvements. In other words, if the cost necessary to fully repair the structure to its before damaged condition is equal to or greater than 50% of that structure's market value before damages, then the structure must be elevated (or floodproofed if it is non-residential) to or above the level of the base flood.

Q.
WHAT IS THE BASIS FOR DETERMINING A SUBSTANTIALLY DAMAGED STRUCTURE?

A.
A sole criteria for determining substantial damage is a ratio of the cost of the repairs due to damage to the market value of the structure prior to

the damage. If this ratio is equal to or greater than 50%, then the structure is substantially damaged.

Q.
WHO IS ULTIMATELY RESPONSIBLE FOR MAKING THE DETERMINATION WHETHER A STRUCTURE HAS BEEN SUBSTANTIALLY DAMAGED?

A.
Ultimately, it is the responsibility of the community permit official to assure that market value estimates are reasonably accurate and that the cost of repair estimates submitted or obtained, reasonably reflect the value of the damages (or actual cost of repairs and improvements if greater than the value of damages) sustained.

Q.
HOW MUCH ACCURACY IS NEEDED IN DETERMINING WHETHER A STRUCTURE IS SUBSTANTIALLY DAMAGED?

A.
As a general rule, the closer the level of damage appears to approach 50% of the market value of the structure, the greater the care needed in determining the factors going into substantial improvement.

Q.
WHAT IS THE MARKET VALUE OF A STRUCTURE?

A.
The market value of a structure for the purposes of determining substantial improvement includes only the value of the structure in question—not the land, landscaping or detached accessory structures. For determining substantial improvement, the value of

the land must always be subtracted.

Various appraisal and real estate associations have different versions of the definition of market value. However, these definitions do not vary a great deal and a general definition of market value would read something like this:

"The most probable price for which the appraised property (in this case just the structure in question) will sell in a competitive market under all conditions requisite to a fair sale, with the buyer and seller each acting prudently, knowledgeably, and for self interest and assuming that neither is under duress."

Generally, market value is determined by reviewing and adjusting the sales price of comparable properties. This can be done relatively easily if there are many very similar properties such as in a large subdivision where homes have been built by one builder. However, there will be situations where properties are unique, or similar properties are so few in number that recent comparable sales of properties are not available. In addition, unless there are recent sales of vacant lots in the area, it may be difficult to separate the land value to determine the market value of the structure itself. In these cases, it may be necessary and advisable to use alternative methods of determining market value.

The market value of a structure can also be defined and is commonly estimated using the following "cost approach-to-value" formula:

[Market Value = Replacement Cost - Accrued Depreciation]

where:

Replacement Cost is the cost of construction at current prices of a building having utility equal to the building

QUESTIONS & ANSWERS

being appraised but built with modern materials and according to current construction standards, design, and layout; and:

Accrued Depreciation is losses in value due to all forms of depreciation including, physical deterioration, functional obsolescence, and environmental/economic obsolescence.

For structures of identical age, size, style, physical depreciation, and other depreciation, the market value of these identical structures across the country will not vary greatly, one the value of the land has been subtracted. However, there may be some variation due to regional differences in labor and material costs. According to cost valuation formulas that have been developed by a number of organizations, regional differences in construction costs across the country range from a minimum of 0.80 to a maximum of 1.32 as compared to a national average of 1.0. Using adjustment criteria based on local cost multipliers for labor and materials, these geographical variations can be adjusted for. Appendix C lists numerous publications that provide local cost multiplier tables.

There may also be variations due to local economic or environmental conditions. For instance, a new house with a replacement cost of \$300,000 may have a market value that is considerably less if built in a neighborhood of \$50,000 houses. Likewise, a structure in a depressed area may have a lower market value because the supply of similar structures in the immediate area is considerably in excess of demand.

Q. WHAT ARE ACCEPTABLE WAYS OF DETERMINING THE PRE-DISASTER MARKET VALUE OF DAMAGED STRUCTURES?

A.

Acceptable estimates for determining market value include 1) independent appraisals by a professional appraiser; 2) property appraisals used for tax assessment purposes; 3) especially in the case where an unmanageable number of permits must be processed in a post-disaster situation, qualified "estimates" based on sound professional judgement made by staff of the local building department or local or state tax assessor's office. This estimate should consider replacement cost minus depreciation using the standard cost approach to value method; 4) the value of buildings taken from NFIP computerized claims printouts, flood insurance "proof of loss statements" or adjustor's work sheets. All Floodplain Uses Deserve Scrutiny

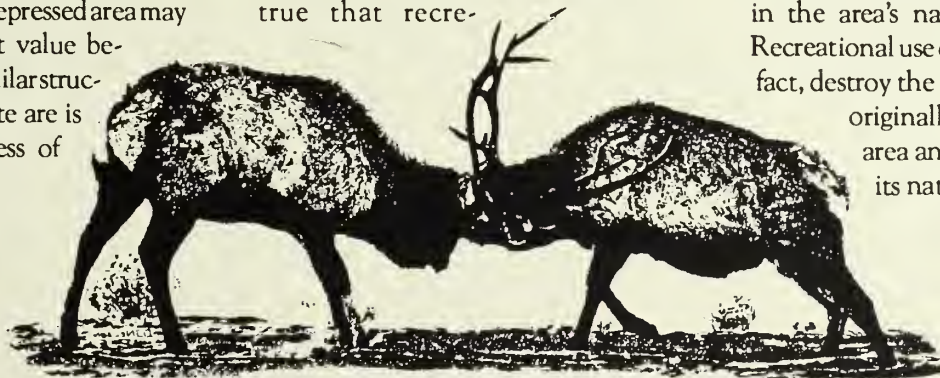
In the business of promoting floodplain management and risk reduction one question always haunts us - What is the best land use within the floodplain?

The best use is that which imposes no human designed uses and allows the floodplain to continue its natural function. While it is true that recre-

ational uses are probably the most compatible, we must understand that even these uses will have an impact on the floodplain. Recreational uses are not a panacea. Within the floodplain there are many subclassifications, including wetlands, floodways, floodway fringes, coastal high hazard areas, barrier islands, channels, sand dunes, and riparian zones. Each has a differing set of characteristics which must be used in guiding both natural and designed uses.

For example, consider the riparian zone - technically, the adjacent area along the banks of rivers and streams which has been expanded to include areas bordering springs, wet meadows, ponds, lakes and reservoirs. Some areas are able to withstand heavy use by humans with little damage to the ecosystem; other areas are very fragile and can be severely damaged by even moderate use. Some areas recover quickly from impacts; others will take years.

Even seemingly harmless uses (hunting, fishing and other recreational activities) can damage the floodplain. Access to humans and motorized vehicles can harm vegetation, cause damage to stream banks, lead to excessive erosion, cause loss of habitat and nutrients and disrupt the food chain. In turn, such problems can lead to changes in stream width and depth and water temperature, a decrease in the underlying water table and an overall change in the area's natural characteristics. Recreational use of a floodplain can, in fact, destroy the very resources which originally gave value to the area and render it useless for its natural purpose.



LAW COULD REDUCE DISASTER AID FOR COMMUNITY BUILDINGS

Provisions of the Stafford Act could reduce the amount of funds available for repair of community buildings in the event of a flood disaster, thus having serious consequences for the community.

When the President determines that a flood or other natural disaster has caused such damage that response to the disaster cannot be delivered adequately by state and local governments, he may, upon a formal request from the governor of the affected state, declare the event a major disaster. Such a declaration can make available several forms of federal disaster assistance, including a 75/25 percent cost-sharing of funding for repair of publicly owned facilities.

Now, however, under provisions of the recently enacted Robert T. Stafford Disaster Relief and Emergency Assistance Act, federal public assistance funding for repair of damage to insurable publicly owned buildings in special flood hazard areas is reduced by the amount of flood insurance proceeds that could have been received, whether the building was insured or not.

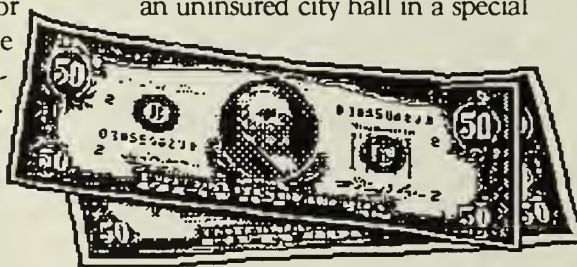
If, for example, the flood damage to an uninsured city hall in a special

flood hazard area totals \$500,000, the amount of federal funds available for repair is reduced by \$200,000 - the maximum amount of flood insurance available. The standard 75/25 percent cost sharing is applied to the remaining \$300,000 in damage.

If the damage for this same city hall totals only \$100,000, then there is no public assistance funds available, because the damage could have been fully covered under a flood insurance policy.

From the examples, it is obvious that the additional costs to the community for its officials not to insure can be substantial.

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Floodplain Management Section

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